

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. No new matter has been added by way of the amendments. Applicant thanks the Examiner for indicating that claims 19-24 are allowed.

Disposition of Claims

Claims 2-4, 6, 7, 10-14, 19-24, and 26 are pending in this application. Claims 6, 20, and 26, are independent. The remaining claims depend, directly or indirectly, from independent claims 6, 20, and 26.

Rejections under 35 U.S.C § 102

Claims 2-4, 6 and 7 stand rejected under 35 U.S.C. § 102 as being anticipated by a 2001 review by Safe Home Products of a product labeled the ItchZapper. An article regarding a similar product, the Itch Soother, is also cited by the Examiner as anticipating claims 6 and 7. Claim 6 is amended in this response to clarify the invention recited. No new matter has been added by way of this amendment. To the extent this rejection applies to the amended claims, it is respectfully traversed.

The ItchZapper is a portable, battery-powered, device which may be utilized to apply heat to an insect bite with the expectation that such heat will break down the proteins in the insect saliva, thereby relieving itching caused by the bite. The Itch Soother is a similar device, which appears to differentiate itself from the ItchZapper only in terms of appearance and maximum temperature. Both devices appear to include a small, externally-located heating element. For convenience, when referring to common aspects of the ItchZapper and the Itch Soother, they will be collectively referred to herein as the "Itch devices."

The ItchZapper heats to 122 degrees Fahrenheit, while the Itch Soother heats to 113 degrees Fahrenheit. As described in the Safe Home Products review of the ItchZapper, insect proteins are believed to break down at 118 degrees Fahrenheit, which indicates that the Itch Soother is ineffectual at breaking down such proteins. The heat of the ItchZapper is sufficient to distract the bitten person, while the Itch Soother generates "soothing heat" from a "gentle heating element."

Claim 6, as amended in this response, requires an apparatus for inhibiting infection having a fluid-based thermal energy source disposed in a sealed cavity. The claim further requires a "rapid temperature change" followed by a discontinuation of the rapid temperature change, followed by an assessment of the suspected area of infection. Treatment is discontinued if the assessing indicates a rapid increase in discomfort, followed by a gradual decrease in discomfort.

In contrast to claim 6, neither of the Itch devices utilizes a fluid-based thermal energy source. Furthermore, the method of use of the Itch devices neither discloses nor suggests a rapid increase in discomfort followed by a gradual decrease in discomfort *after* discontinuation of the causing of the rapid temperature change. Instead, the ItchZapper *causes discomfort* which then fades once its use is discontinued, while the Itch Soother, as previously discussed, does not provide sufficient heating to break down insect proteins, and therefore appears to have no therapeutic value beyond the generation of "soothing heat."

For at least these reasons, claim 6, as amended, is patentable over the Itch devices. Claims 2-4 and 7, which depend therefrom, are patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 10-11, 13-14, and 26 stand rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,613,044, issued to Carl. Claim 26, from which claims 10-11 and 13-14 depend, is amended in this response to include the limitation that the thermal energy source is a fluid and that the apparatus is a self-contained portable hand-held unit. No new matter was added by way of this amendment. To the extent this rejection applies to the amended claims, it is respectfully traversed.

Carl discloses a surgical device for delivery of cryogenic energy to intervertebral disc tissue. The surgical device comprises a catheter having a thermally transmissive region in fluid or gas communication, through a lumen of the catheter, with a refrigeration device having a coolant means disposed in a reservoir (Col. 5, ll. 1-2 and Col. 5, l. 35 – Col. 6, l. 60).

In contrast to Carl, claim 26, as amended, recites a self-contained portable hand-held unit including a thermal energy source disposed within a sealed cavity located within a non-metallic positioning element. Carl neither suggests nor discloses a self-contained portable hand-held unit. Carl further fails to suggest or disclose a thermal energy source contained within the unit, and instead requires a separate refrigerant source and container. Carl also fails to disclose or suggest a non-metallic positioning element configured to be grasped by a user. Element 30 of Carl is a cryoprobe, which is not a positioning element, and is not configured to be grasped by a user. Advantages of the embodiment of claim 26 over Carl include portability, decreased cost, and increased simplicity.

Because Carl fails to disclose or suggest at least the portable self-contained hand held unit, the thermal energy source located within a sealed cavity of the unit, and the non-metallic position element as required by amended claim 26, claim 26 is patentable over Carl. Claims 10-11, and 13-14, which depend from claim 26, are patentable for at least the same reasons.

Accordingly, withdrawal of this rejection is respectfully requested.

Claims 10-11, 13-14, and 26 stand rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 7,204,832, issued to Altshuler et al. ("Altshuler"). Claim 26, from which claims 10-11 and 13-14 depend, is amended in this response to include the limitation that the thermal energy source is a fluid and that the apparatus is a self-contained portable hand-held unit. No new matter was added by way of this amendment. To the extent this rejection applies to the amended claims, it is respectfully traversed.

Altshuler discloses a photocosmetic device which delivers radiation to a subject's skin via optical systems. The radiation results in heating of the radiation source and the skin, and phase-change liquids and solids are used to counteract the heating of treated skin and the radiation source.

Claim 26, as amended, recites a self-contained portable hand-held apparatus for inhibiting infection, comprising a fluid sealed within a cavity substantially disposed within a non-metallic positioning element, the cavity being in fluid communication with an inner surface of a heat transfer element of the device. The device is configured such that the fluid in contact with the inner surface of the heat transfer element will lower a temperature of the surface of the heat transfer element to a temperature that is lower than an initial temperature of a suspected area of infection.

In contrast to amended claim 26, Altshuler neither discloses nor suggests a self-contained portable hand-held unit having a fluid thermal energy source in fluid communication with an inner surface of a heat transfer element for lowering a temperature of a suspected area of infection to a temperature that is lower than an initial temperature of the suspected area of

infection. The only hand-held unit disclosed by Altshuler is a rechargeable photocosmetic unit, which relies on an electrical charge, and not a fluid (Col. 7, ll. 28-33). Altshuler also fails to disclose or suggest any suspected area of infection, and instead uses radiant energy in cosmetic procedures. Altshuler further fails to disclose or suggest any temperature that is lower than an initial temperature of the suspected area of infection. Any cooling according to Altshuler is conducted to counteract the heating of the surface and skin from the radiation. Such a configuration will not lower the temperature of the radiation source or skin below an initial temperature of a suspected area of infection, but instead only counteracts to some degree the heating caused by operation of the device.

Furthermore, while Altshuler discusses phase-change liquids and solids to cool the radiation source, these are not enclosed within a sealed cavity of the hand-held unit that is in fluid communication with an inner surface of a heat transfer element. Instead, the phase-changed liquids and solids (or other fluids) utilized for cooling by Altshuler are either sprayed or dripped from the cavity in which they are disposed (Col. 13, ll. 14-40). Altshuler further fails to disclose or suggest that any positioning element is non-metallic.

Because Altshuler fails to disclose or suggest at least the portable self-contained hand-held unit containing a fluid within a sealed cavity, the non-metallic positioning element, and any temperature that is lower than an initial temperature of a suspected area of infection, claim 26, as amended, is patentable over Altshuler. Claims 10-11, and 13-14, which depend therefrom, are patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 103

Claim 26 stands rejected under 35 U.S.C. § 103 as being obvious over U.S. Patent No. 6,736,835, issued to Pelligrino et al. ("Pelligrino"). Claim 26 is amended in this response to include the limitation that the thermal energy source is a fluid and that the apparatus is a self-contained portable hand-held unit. No new matter has been added by way of these amendments. To the extent the rejection may apply to the amended claim, it is respectfully traversed.

Claim 26, as amended, recites a self-contained portable hand-held apparatus for inhibiting infection, comprising a fluid sealed within a cavity substantially disposed within a non-metallic positioning element, the cavity being in fluid communication with an inner surface of a heat transfer element of the device. The device is configured such that the fluid in contact with the inner surface of the heat transfer element will lower a temperature of the surface of the heat transfer element to a temperature that is lower than an initial temperature of a suspected area of infection.

In contrast, Pelligrino discloses a surgical device for applying energy to locations within a body, specifically within a spinal cord thereof. The energy sources according to Pelligrino include acoustic, EMR, optical, and chemical. The device according to Pelligrino consists of a long probe (having a longitudinal axis in the range of 10 – 100 times the width of the device), for insertion into a body. Pelligrino neither suggests nor discloses that the probe is configured to be grasped by a user. Any chemical disclosed by Pelligrino is utilized in combination with one or more other chemicals to produce an exothermic reaction, heating the target region, in contrast to the cooling of a target region below an initial temperature, as required by claim 26.

Pelligrino further fails to disclose that any thermal energy source is a fluid, and any fluid that may be utilized by the Pelligrino device would not be sealed within a cavity of the device,

but would instead be flowed to the device through tubular portion (T in Fig. 1) "whose function is to essentially transport the treatment sources." (Col. 8, ll. 64-65) Additionally, Pelligrino teaches away from any chemical or fluid-based cooling by stating that the chemical delivery source is "preferably a source which delivers a pair of chemicals which when combined have an exothermic reaction." (Col. 10, ll. 41-43)

Because Pelligrino fails to disclose or suggest at least the fluid thermal energy source, the self-contained portable hand-held unit, the sealing of the fluid within the cavity, and the cooling, claim 26, as amended, is patentable over Pelligrino. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account No. 50-0591 (Reference No. 17090/002001).

Respectfully submitted,

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